



mosaic power

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Water Heater Efficiency Network (WHEN)



- ◆ Fast regulation
- ◆ Load shifting
- ◆ Peak load reduction

*Making WHEN energy is used efficient
with existing electric water heaters*

Bring Your Own Water Heater

- ◆ *existing* water heaters – any age
- ◆ no replacement necessary
- ◆ 30+ gallon
- ◆ 2 heating elements
- ◆ **ELECTRIC!**



Mosaic adds a load controller on the electric line to each water heater

Our PJM Business Model

- ◆ Mosaic contracts with multi-family property owner
- ◆ Mosaic pays hardware and installation costs
- ◆ Heater owner receives flat annual payment
- ◆ Mosaic trades in PJM markets

Currently

~6,600 water heaters capable of
regulating more than **6 MW**
24 hours a day, 365 days a year

How We Work in PJM Today*

- ◆ 1,500 – 2,000 heaters per MW regulation
 - ◆ 1 MWh of storage
 - ◆ 2 MW of fast response demand
- ◆ Initial investment
 - ◆ Hardware + Installation
 - ◆ Sales
 - ◆ Licensed electrician + Mosaic supervisor
- ◆ Operations
 - ◆ Water heater energy management
 - ◆ Customer and hardware support and maintenance
 - ◆ Customer cash incentive

*Based on PJM Reg D signals after Jan 2017 retuning

How We're Different

- ◆ Bring-your-own-water-heater
- ◆ Perfect fit for affordable housing
- ◆ Contracts negotiated with water heater owner rather than tenant
 - ◆ Tenant has very easy opt-out with no penalty
- ◆ Not limited to discrete events; continuous energy management
 - ◆ Tenant hot water availability is prioritized
 - ◆ Uses tenant usage history and predictive analytics to maintain hot water at all times
 - ◆ Opt-out rate well below ½%
- ◆ Certified, revenue-grade meter

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WHEN

WATER HEATERS UNITE

WATER HEATER EFFICIENCY NETWORK

